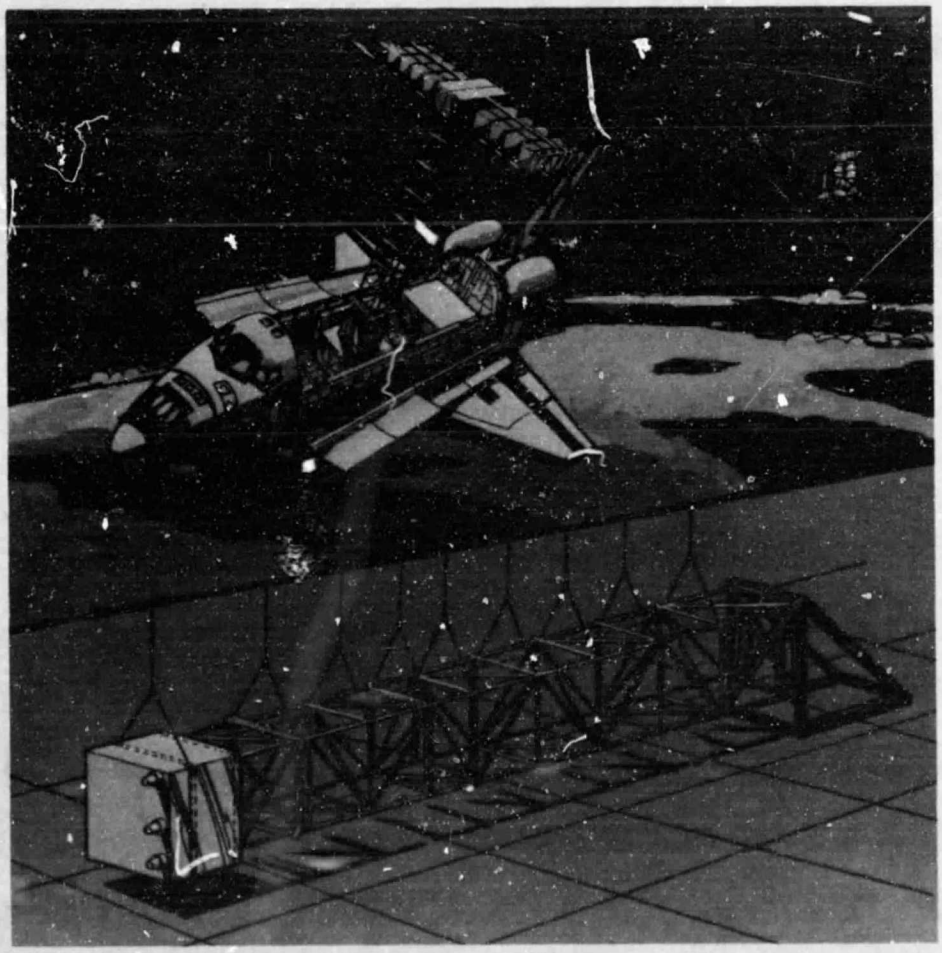
FIFTH BI-MONTHLY REPORT

Ground Test Article for Deployable Space Structure Systems

NASA / MSFC Contract NAS8-34657

January 1985



Rockwell International
Space Station Systems Division

FIFTH BI-MONTHLY PROGRESS REPORT

GROUND TEST ARTICLE FOR DEPLOYABLE SPACE STRUCTURE SYSTEMS

NASA/MSFC CONTRACT NAS8-34657

JANUARY 9, 1985

Prepared for

National Aeronautics and Space Administration
George C. Marshall Space Flight Center
Alabama, 35812

By

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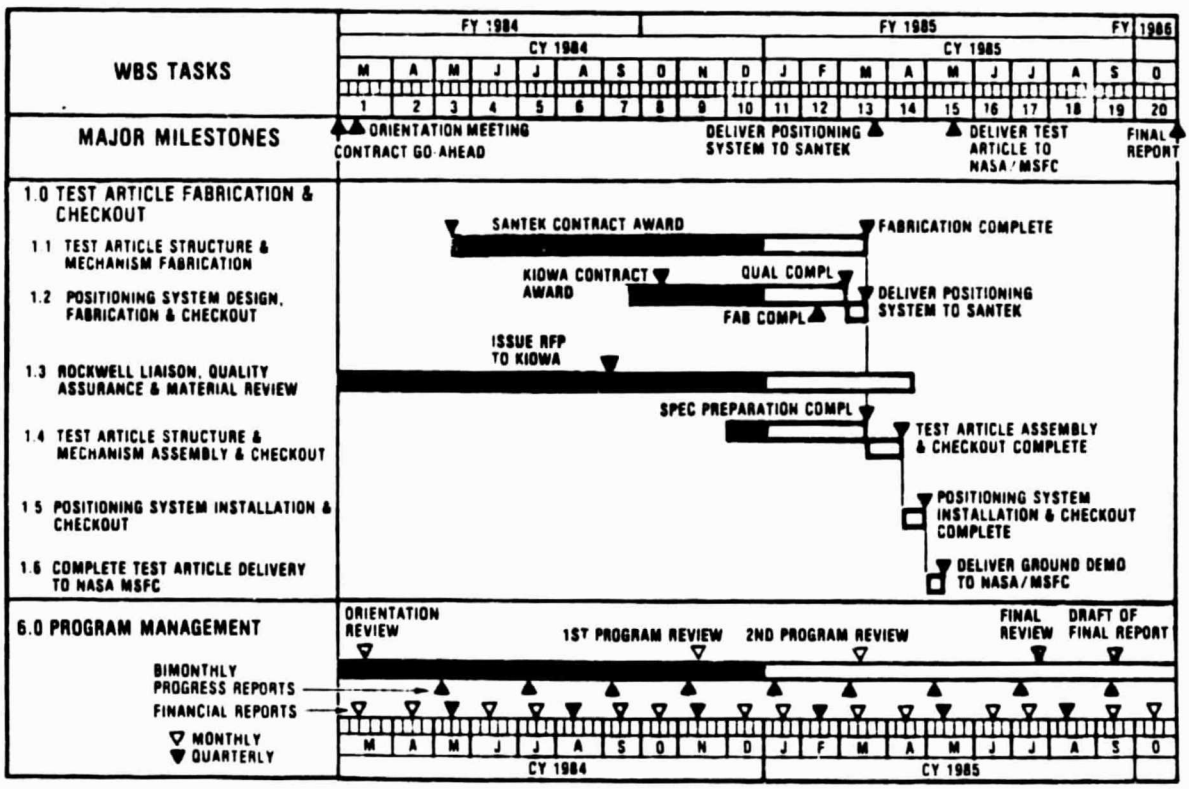
INTRODUCTION

This report is submitted in compliance with the Bi-Monthly Progress Report Requirements delineated in Attachment A of Article XVIII, Contract NAS8-34657.

PROGRESS SUMMARY

A summary of the major accomplishments during the period November 1 through December 31, 1984, is presented below.

Work is progressing in accordance with the following schedule:



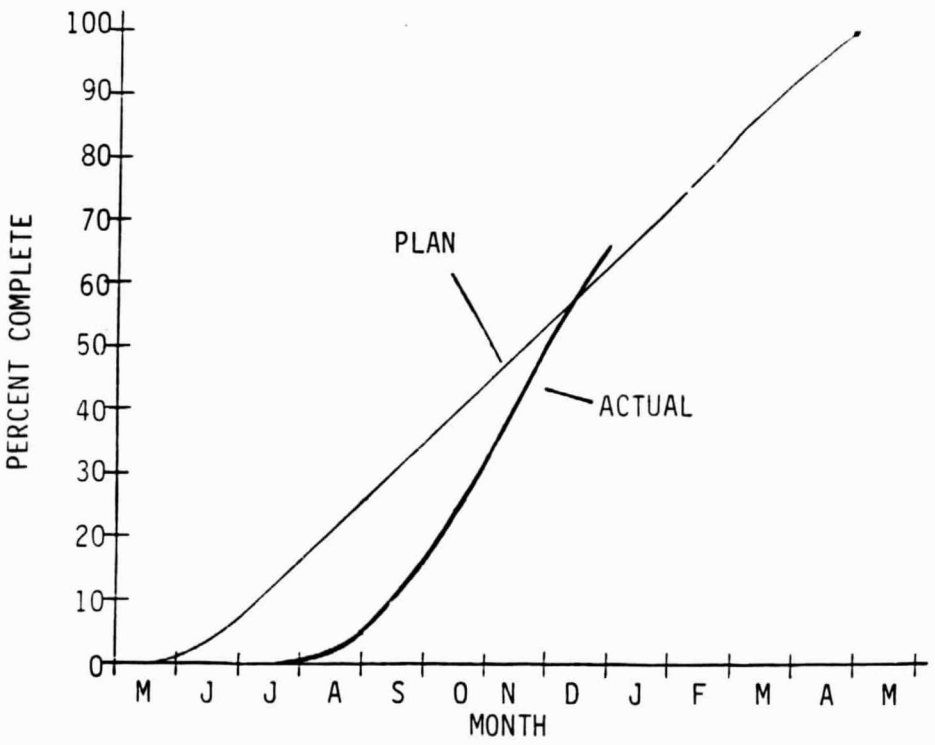
The "1st Program Review" was held November 9, 1984, at the NASA/MSFC facility. The review included a joint NASA/Rockwell tour of the Santek Engineering facility in Guntersville, Alabama, to review progress and assess Santek's ability to recover from an earlier schedule slip. A follow-up visit was made on December 13. By increasing manpower and machine utilization, schedule recovery was achieved and the completion rate was approximately 65% at the end of December.

Approximately 60% of the parts had completed machining operations and approximately 25% had been through inspection.

The percentage completion of the various sub-assemblies was as follows:

Sub-Assembly	Quantity	Complete
Diagonal	44	69
Longeron	40	77
Batten Jackscrew	4	65
Unlocking Jackscrew	8	70
Precompression System	2	65
Housing	1	41
Support Frame	1	97
Adapter	1	55
Batten	9	30
Utility Tray	2	32
Carrier Assy.	2	27

SANTEK MANUFACTURING PROGRESS



A procedure providing for Rockwell Quality Assurance and Engineering review and disposition of material discrepancies at Santek was put into effect in November.

Three specimens, identical to the diagonal member bonded joint, were delivered to Rockwell in December for verification of Santek's adhesive bonding procedure. When subjected to static load-to-failure tests, the specimens failed at approximately 4-1/2 times the design limit load. The results are considered adequate verification of Santek's bonding procedure for this application.

The Kiowa Corpoation has completed engineering, planning, and ordering of parts and materials for the Drive Motors and Positioning System. The width of the console was increased from 36 inches to 48 inches to avoid crowding and possible overheating of components.

PLANNED WORK

The major events planned for the months of January and February include the following:

Santek Engineering

1. Bonding and proof-load testing of diagonal members.
2. Fabrication of housing skins.
3. Start assembly of major truss sub-assemblies.
4. Start of final assembly.

Kiowa Corporation

1. Assembly of the positioning system control console.
2. System checkout and verification testing .
3. Delivery to Santek

ROCKWELL ACTIVITY

1. Maintain surveillance of program status including cost and schedule performance, technical progress, and preparation of periodic reports.
2. Provide engineering liaison in support of material review actions and drawing interpretation.
3. Perform quality assurance tasks including material review actions, and assurance of supplier in-process inspections.

PROBLEM AREAS

No unresolved problems are known to exist at the present time.

FINANCIAL SUMMARY

Total cumulative costs incurred as of December 31, 1984: $537,423

Estimate of cost to complete contract: $387,010

Estimate percentage of physical completion of the contract: 59.6%

Percentage of completion based on the cumulative cost through the report period is 58.1%. The resultant variance of 1.5% between the physical and cost percentage of completion is considered within acceptable range of deviation.